

[058] WHAT IS CLAIMED IS:

1. A method for purifying a fluid sample, the method comprising:
providing a fluidic device having an entry port, a purification column in fluid communication with the entry port, and an output reservoir in fluid communication with the purification column;
providing the purification column with a purification material saturated with diluent, and excess diluent;
moving the excess diluent from the purification column into the output reservoir to provide a removed diluent;
introducing the fluid sample into the purification column through the entry port;
moving the fluid sample through the purification column and into the output reservoir to provide a purified sample in the output reservoir; and
mixing the purified sample with the removed diluent in the output reservoir.
2. The method of claim 1, wherein moving the excess diluent includes generating a moving force.
3. The method of claim 2, wherein the moving force includes a centripetal force.
4. The method of claim 2, wherein the moving force includes a hydraulic force.
5. The method of claim 2, wherein the moving force includes a pneumatic force.

6. The method of claim 1, wherein moving the fluid sample includes generating a moving force.
7. The method of claim 6, wherein the moving force includes a centripetal force.
8. The method of claim 6, wherein the moving force includes a hydraulic force.
9. The method of claim 6, wherein the moving force includes a pneumatic force.
10. The method of claim 1, wherein the fluid sample includes a biological sample.
11. The method of claim 1, wherein the fluid sample includes a nucleic acid sequence.
12. The method of claim 1, wherein the excess diluent is moved through the purification chamber before the fluid sample is introduced into the purification column.
13. The method of claim 1, wherein providing the purification column with the purification material saturated with diluent, and the excess diluent, comprises filling the purification column with the purification material saturated with diluent, and adding excess diluent to the column.

14. The method of claim 1, wherein providing the purification column with the purification material saturated with diluent, and excess diluent, comprises filling the purification column with a mixture of saturated purification material and excess diluent.

15. The method of claim 1, wherein providing the purification column with purification material comprises adding the purification material to the column through the entry port.

16. The method of claim 1, wherein the purification material comprises size-exclusion particles.

17. The method of claim 1, wherein the purification material comprises size-exclusion ion-exchange particles.

18. The method of claim 1, wherein the sample is contacted with the purification material for at least one minute.

19. The method of claim 1, further comprises subjecting the sample to a polymerase chain reaction prior to introducing the fluid sample into the purification column.

20. The method of claim 1, further comprises subjecting the sample to a sequencing reaction prior to introducing the fluid sample into the purification column.

21. The method of claim 1, further comprising subjecting the purified species mixed with the removed diluent, to capillary electrophoresis.

22. The method of claim 1, wherein the fluid sample includes chloride ions and the method includes ion-exchanging the chloride ions in the purification column.

23. The method of claim 1, wherein the fluidic device is a microfluidic device.

24. A microfluidic device comprising:

a purification column, the purification column comprising a chamber and a purification material retained in the chamber, the purification material including an excess of a purification material diluent;

an output chamber;

a first fluid communication between the purification column and the output chamber; and

an openable and recloseable first valve capable of interrupting fluid flow through the first fluid communication.

25. The device of claim 24, wherein the first valve is closed.

26. The device of claim 24, wherein the first valve is open.

27. The device of claim 24, further comprising:
- a reaction chamber;
 - a second communication between the purification column and the reaction chamber; and
 - an openable and recloseable second valve capable of interrupting fluid flow through the second fluid communication.
28. The device of claim 24, wherein the purification material includes particles having an average particle diameter and the first fluid communication has a minimum dimension that is greater than the average particle diameter.
29. The device of claim 24, wherein the excess diluent comprises a buffer for the purification material.
30. A sample processing system comprising:
- the microfluidic device of claim 24;
 - a platen having an axis of rotation;
 - a holder capable of holding the microfluidic device on or in the platen; and
 - a drive unit capable of spinning the platen about the axis of rotation.

31. The sample processing system of claim 30, further comprising a drive control unit capable of controlling the drive unit.

32. The sample processing system of claim 30, further comprising:
a heating unit capable of heating the device; and
a heat control unit capable of controlling the heating unit.